Prairie Update

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Making a Difference for Tomorrow: Dealing with Runoff Today

By Dawn M. Barker, Prairie Visions Designs

When Jack Hextall's great-great grandfather homesteaded on a scenic plot of land north of Windthorst is 1882, he likely thought the spot was an ideal one to raise a family and run a farm. Now, over 120 years later, the fifth generation of Hextalls has taken over this same land, but education and conservation studies have shown that the spot isn't quite as ideal as it was once considered.

"What was the perfect spot then is now, probably, not so perfect," Jack said when asked why he and his wife Kim recently undertook a project to divert farm runoff from draining into the nearby creek.

Jack's involvement with the development of Pipestone Feeders spurred his interest in correcting the drainage problem at his own farm.

"We were selling this feedlot idea within the community," Jack explained, "and lots of environmentally-based questions came up. We were quite happy with having gone through the process – there wasn't anything there that hadn't thoroughly been checked out."

The Hextalls decided to make a further commitment to the health of their land by addressing drainage issues on their farm.

"There were some advantages to doing it now," Jack said.

"Besides, we knew it was the right thing to do," Kim said. "It was an issue of accountability for us."

Jack and Kim Hextall

The project was in the "waiting" stages for some time before Randy Vopni, a Regional Specialist with Saskatchewan Agriculture and Food in Weyburn, came to examine the land with the project in mind. Backhoes were used to perform soil samples in four areas of the yard to determine that the land was suitable for creating berms to direct the water to a broad, shallow holding/evaporation area.

There, the runoff water would be contained and evaporate, instead of mixing directly with the creek and impacting wildlife and natural riparian areas.

The drainage would have occurred quickly right into the aquifers beneath had the land been gravel- or sand-based. The Hextalls' land is clay-based, so that water either pools or runs off.

Even the surveyor contributed to the planning stage. "We were originally going to make the holding pond down at the bottom of the creek because the creek is diverted from there, but he didn't really like that idea," Jack said. The original proposal could have caused the berms to be overtopped in an excessive rain event. This would have had an immediate negative effect on the creek.

The plan was revised to include a berm, or shallow earthen ridge, which surrounds the corral area and drains into two shallow holding ponds nearby. Jack and Kim had completed an Environmental Farm Plan and were able to proceed with 50 per cent funding from the Canada-Saskatchewan Farm Stewardship Program. Construction took place in mid-October.

The Hextall's plan also called for the discontinuation of use of one corral, which will be moved to another location. Jack said he hasn't seen any changes to the area yet, but he looks forward to spring, when the runoff will show that the project is working to its full potential.

Thanks to Jack and Kim's commitment today, when the next generation of the family – 12-year-old Jessica and 14-year-old Andy – are ready to take over, a positive difference will have been made.

"Our point was to see that our operation is in full compliance with all regulations, and basically, to try to be good stewards of the land," Jack said.

Lower Souris Agri-Environmental Group Plan

Forty-one producers are piloting a group approach to Environmental Farm Planning in the Lower Souris River Watershed.

> Environmental Farm Planning is a process which determines environmental strengths and weaknesses on a producer's farm, and qualifies them for cost-shared federal funding to implement Beneficial Management Practices.

The approach to planning through the Lower Souris Agri-Environmental Group Plan is a little different from the individual planning process. The main advantage of the group approach is that it includes hands-on, one-on-one contact between the technician and the producers to help them develop and complete their project.

"The intent of the group planning approach is to address issues of air, soil, and water quality, as well as biodiversity over a large geographic area," says Karmen Kyle, the Beneficial Management Practices Technician working with the Lower Souris group.

"Environmental information was presented to all area producers in March 2005. From that discussion, it was established that surface water quality was an issue of top concern to many local producers in terms of runoff, wetlands and permanent and intermittent creeks. Two ways to address the issue of surface water quality are to improve management of livestock wintering sites, and riparian areas around both creeks and wetlands."

In 1999, rural municipalities around Stoney, Jackson, Graham and Gainsborough Creeks formed the Four Creeks Watershed Advisory Committee, and in 2004 joined forces with the Pipestone Watershed Advisory Committee and the Antler River Watershed Advisory Committee to promote Beneficial Management Practices throughout the Lower Souris River Watershed. Each Committee chairman sits on the steering committee which runs the Lower Souris Agri-Environmental Group Plan.

"With all the drainage and land leveling activities in our area, I and other producers had started to wonder if local economic activities around agriculture were starting to affect the quality of water in our watershed," says Ross Madsen, Chair of the Four Creeks Watershed Advisory Committee. "In the fall of 1999, we received 27 inches of rain, and all of a sudden we found ourselves in a flooding situation. It was time to take stock of our agricultural practices."

In the first intake of the group plan, funding was approved for 56 riparian area and wintering site management projects, including 29 watering projects, 24 fencing projects, two portable windbreak projects and a buffer strip project.

The cost was shared between the producer members of the group and the Canada-Saskatchewan Farm Stewardship Program. More than 47,800 acres were affected.

The way Kyle sees it, "group planning gives producers an opportunity to take ownership of the project, which then adopts a bottom-up approach, rather than top-down. The collective decision-making process ensures the success of the initiative. We are now starting to involve additional producer members in the group planning, who will submit an application in the spring."

The Lower Souris River Watershed is divided into three watershed planning areas: the Four Creeks (Jackson, Stoney, Graham, and Gainsborough Creeks), the Pipestone Creek, and the Antler River. In 2004, the three Watershed Advisory Committees joined forces to submit a proposal to the Technical Assistance Component of the Greencover Canada Program to hire a Beneficial Management Practices Technician to promote the adoption of Beneficial Management Practices in the Lower Souris.

In June 2004, Karmen Kyle was hired for this position. Karmen grew up on a ranch south of Ponteix, Saskatchewan, and following her graduation from the College of Agriculture at the University of Saskatchewan in 2001, moved to Redvers. She is now actively involved raising purebred Black and Red Angus cattle with her husband Lyndon, and their two-year-old son Layne. She really enjoys meeting with local producers and discussing grazing management options with them.

Karmen Kyle and son, Layne

Karmen works with producers throughout the Lower Souris River Watershed, developing grazing plans, and assisting with wintering site plans and cropping plans. It has been established through public meetings that surface water quality is the largest concern for many residents. Through the Lower Souris Agri-Environmental Group Plan, surface water quality is being addressed through improvements in riparian area management and wintering site management. Producers are eligible for 50 per cent cost-share funding through the Canada-Saskatchewan Farm Stewardship Program for off-site watering systems, cross-fencing, buffer strips, portable windbreaks, and remote winter watering systems, to name a few. The three-year program runs until March 2008.

Karmen works directly with producers interested in implementing these Beneficial Management Practices to develop a management plan (including stocking rates, litter estimates, mapping, and assessments). She also organizes a variety of workshops and tours, develops newsletters, and helps producers with other concerns, such as well decommissioning.

With funding from the Technical Assistance Component of the Greencover Canada Program.

Canada

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Educational Trail Ride a Success

By Dawn Barker, Prairie Visions Design

Thirty-six people found out how conservation and recreation go hand in hand when they participated in a combined trail ride/pasture school in the Lower Souris River Watershed this past summer.

The one-day event was sponsored by the Four Creeks/Antler River/Pipestone Creek Watershed Advisory Committees, the Technical Assistance Component of the Greencover Canada Program, and Ducks Unlimited Canada.

Participants had the opportunity to spend an enjoyable and informative day learning about the care and preservation of native and tame pastures and riparian areas. Bill Haight of Pierson, Manitoba, provided comfortable transportation for non-riders on a wagon pulled by his team of Percherons, while the rest of the participants, ranging in age from toddlers to adults, rode their own horses.

Range Agrologist Etienne Soulodre of the Saskatchewan Watershed Authority was on hand throughout the day to share information on proper stewardship techniques and assist the participants in pasture assessment exercises. Also providing insight and mentoring were Vicki

East and Dwayne Donald from Ducks Unlimited Canada in Estevan, and Beneficial Management Practices Technician, Karmen Kyle.

The group first rode to a tame grass pasture, where Soulodre outlined the ways to differentiate between smooth brome and meadow brome. Smooth brome is a superior hay grass, but in terms of regrowth potential, meadow brome has the upper hand.

There are five points to assessing a tame pasture:

1) the type of beneficial plants in the area;
2) the degree of invasion of less desirable plant species;
3) the amount of "litter" or dead material covering the ground;
4) any evidence of bare ground or erosion;
5) the presence and/or numbers of noxious weeds.

"A quick estimate of litter levels can be reached by raking through a 50-centimetre square area of pasture," Soulodre said. A sizable handful of litter raked from the area indicates about 450 pounds per acre, while a scant palm full indicates 125 pounds per acre. Producers should work to maintain at least 450 pounds per acre of litter for healthy tame pasture.

A shift occurring to weedy or less desirable plant species may be indicative of overgrazing, and remedial measures should be taken. By continually overgrazing an area to the point where less desirable plants invade, producers lose some of the value of their land through loss of grazing potential, as well as causing a negative domino effect on the wildlife in the area, as the healthy grasses and habitat are depleted. "If it's bad for ducks, it's bad for us," Dwayne Donald noted.

The group next moved several kilometres away to a riparian, or streambank, area to assess its health. Riparian areas are often crucially affected by livestock, since they are difficult and costly to fence off and the water they surround is often used as a water source for the animals.

Soulodre emphasized that producers who use these areas need to control the length of grazing, the season of grazing, and the number of times they are grazed each year, in order to maintain healthy riparian areas. "These areas need full recovery time to stay healthy," he said.

The plants which surround the riparian zone can also indicate overgrazing, if their tender tips show signs of too much "browsing." Pointing to a small hawthorn branch growing nearby, Soulodre said that shrubs can provide up to a third of a cow's vegetation needs.

"Chokecherries, saskatoons and willows will be the ones to go first," he added. "So if you see them declining you have an indicator [of overgrazing]. Snowberry (buckbrush) doesn't get browsed as quickly."

Implementing alternative watering systems and controlling the length and amount of grazing in riparian areas are ways to maintain these areas in a healthy state.

Further along the trail, the group identified several species of native grasses and plants, including blue grama, sedges, spear grasses, turkeyfoot grass, and sages, when they performed an evaluation on a plot of native grass pasture.

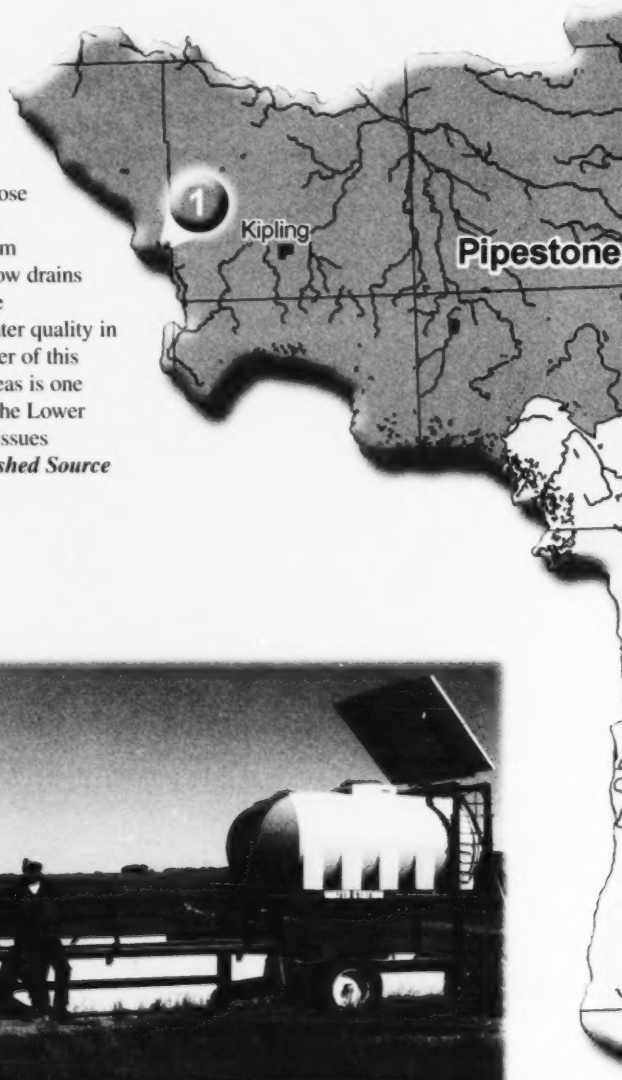
The day wrapped up with a family barbeque, where producers had a chance to discuss their individual grazing needs and situations, and share some solutions.

Focus On: The Lower Souris River Watershed

The Lower Souris River Watershed incorporates a broad diversity of water users and water-related activities. The watershed includes all or part of 20 rural municipalities, 19 urban municipalities, and three First Nations' lands. The total population of the watershed is approximately 14,300. The Lower Souris River Watershed is one of seven priority planning areas in the province. The draft ***Lower Souris River Watershed Source Water Protection Plan*** **will be available online at www.swa.ca** by mid-February. Printed copies will also be made available upon request. For more information on the draft ***Lower Souris River Watershed Source Water Protection Plan***, please contact Jeff Olson at (306) 786-1364.

1 Jack and Kim Hextall

Jack and Kim Hextall run a mixed farming operation north of Windthorst, at the headwaters of the Pipestone Creek. This fall, the Hextalls chose to install a berm around their corrals, which are located alongside the creek, to prevent runoff from draining into the water. Water from the corrals now drains into two shallow holding ponds nearby. For more information on the Hextall's efforts to protect water quality in their area, please see the feature story on the cover of this newsletter. Drainage from livestock wintering areas is one potential point source threat to source waters in the Lower Souris River Watershed, and is one of the many issues addressed in the draft ***Lower Souris River Watershed Source Water Protection Plan***.



2 Donald Boutin

Auburnton Creek flows through Donald Boutin's mixed farm near Alida. The Saskatchewan Watershed Authority was able to assist him with funding to install a portable solar-powered water pumping unit for his livestock. The water is pumped into a 900-gallon storage tank, and from there, into two troughs which hold about 500 gallons in total. Now no matter what pasture his cattle are in, Donald is able to use this watering system to provide them with clean water. When cattle are provided with an alternate water supply they spend less time in the creek, meaning there is less hoof action that can sheer streambanks and cause erosion. Intact streambanks with lots of vegetation are important components of healthy riparian areas. Improving the condition of his riparian areas will contribute to better water quality for all of Donald's neighbours downstream.

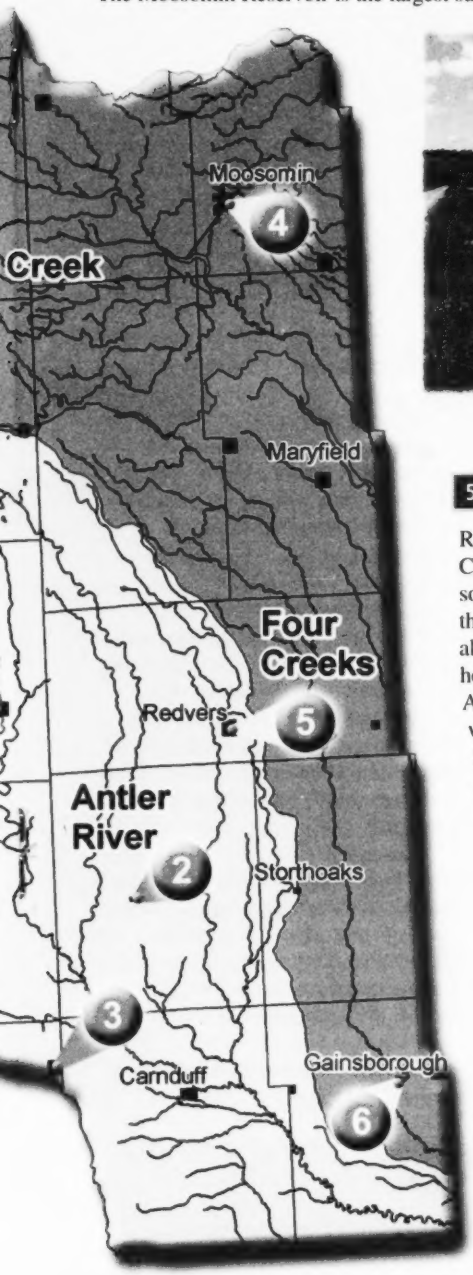
3 Village of Glen Ewen

Small communities need to supply good safe quality water to residents at an economically feasible level. Concerns have been raised that the cost of providing safe, quality water has been an economic struggle for many small communities such as Glen Ewen. This economic challenge raises the potential risk of water contamination. This has lead to some interest in developing a regional water supply pipeline or pipelines to serve multiple users in the area. If the project is deemed feasible, it would allow the cost of treating and supplying water to be shared among more users.

Courtesy Nicole Hansen

4 Moosomin Reservoir

The Moosomin Reservoir is the largest surface water source in the Lower Souris River Watershed. The reservoir was formed when the Prairie Farm Rehabilitation Administration completed the Moosomin Dam, which first opened in July 1955. Water quality sampling places the reservoir's Water Quality Index rating at "Fair." Three parameters are primarily responsible for this Water Quality Index rating in the reservoir – total phosphorous, total dissolved solids (TDS) and chlorophyll *a*. There have also been concerns from downstream water users on the Pipestone Creek about the amount of water that is held in the reservoir and the timing of water releases from the Moosomin Dam.



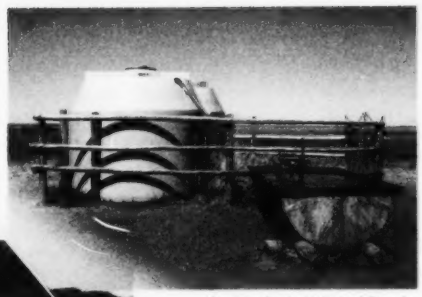
5 Ross Madsen

Ross Madsen serves as Chair of the Four Creeks Watershed Advisory Committee. Madsen originally got involved in the effort to protect source water in the area back in 1999, as part of what was then called the Three Creeks Watershed Board. Since that time Madsen, who is also Reeve of the R.M. of Antler No. 61, has volunteered countless hours of his time to promoting source water protection and the Advisory Committee's stewardship efforts. In January 2005, Madsen was named the inaugural recipient of the Four Creeks Watershed Stewardship Award, which recognizes outstanding commitment to stewardship activities that promote the improvement of source water in the watershed.

6 George Howden

George Howden operates a mixed farm near Gainsborough. In addition to acting as a Councillor for the R.M. of Argyle No. 1, Howden sits on the Four Creeks Watershed Advisory Committee and is very active in a number of other watershed planning and protection initiatives. Recently, Howden participated in the Lower Souris Agri-Environmental Group Planning initiative by installing a remote watering site in a pasture that runs alongside the Gainsborough Creek. In doing so, Howden is not only providing good quality water for his livestock, he is helping to reduce erosion and sedimentation in the creek due to trampling.

Better Management Means Better Results for Grazing Co-op



Courtesy Ducks Unlimited Canada

The members of a grazing co-operative in south central Saskatchewan are enjoying the benefits of some new management practices – as are the variety of grass and bird species that share their land.

Ron Silvester is President of the Lake Johnston Grazing Co-op. The group – which also includes Treasurer Lars Tjeltveit and Directors Mel Noess and Ian Coghill – has approximately 15 quarters of co-op pasture along the south side of Old Wives Lake north of Mossbank.

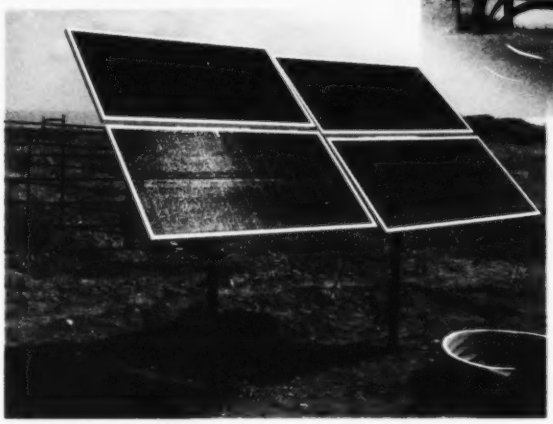
The members each pasture up to 50 cow-calf pairs on the land each year. For much of the approximately 60 years that the co-op has been in operation, cattle were watered from dugouts. However, Silvester says that the water in these dugouts was becoming increasingly saline and unpalatable for livestock. The decreasing water quality prompted the current members to look into making changes.

"Because of [the poor water quality] we were dropping in weights with our calves in the fall," notes Silvester.

> "Good water is very important. You can have all kinds of feed, but if you have poor water you'll have poor cows. And if you have good water it just will increase them tremendously."

Plans were put in place, with the assistance of Ducks Unlimited Canada and the Saskatchewan Watershed Authority, to set up a rotational grazing system with 2.5 miles of new fencing, a well with a solar-powered pipeline system, a gravity-fed holding tank, and multiple watering sites.

With funding and technical assistance from Ducks Unlimited Canada and the Prairie Farm Rehabilitation Administration, in the summer of 2004 the group was able to drill a new well in the pasture and trenched in two miles of 1.5-inch pipe to troughs placed strategically for the new paddocks. The cost of the troughs was cost-shared between the group and the Saskatchewan Watershed Authority through the Government of Canada's Habitat Stewardship Program for Species at Risk.



"That is a big concern to our co-op, is to look after the cattle and see that they always have water, and good water – which this has given us," says Silvester.

Silvester says that installing the watering system was definitely a learning experience. For instance, the float valves that were originally being used in the troughs were too small to release sufficient water to replace what was consumed, leaving animals waiting for a drink. Now with the float valves replaced, the system can keep up no matter the water demand.

"And when we set the system up, it was definitely the wisdom of the Lord that He gave us that we put the two big water tanks on the highest knoll," notes Silvester. "By virtue of this layout, even if the well's pump ceases functioning for any reason, sufficient water will still be fed to the troughs by gravity alone. That was a tremendous miracle that we didn't plan in the first place."

This past spring, the co-op members erected the 2.5 miles of cross-fencing, partially funded by the Saskatchewan Watershed Authority through Environment Canada's Eco-ACTION program, in order to improve their rotational grazing system. The land is now divided into nine paddocks ranging in size from a quarter-section to a half-section.

Tame and native grass species in the pasture are separated into different paddocks. The members closely monitor the condition of the forage as it is grazed, then move the cattle to a different paddock to provide the grass with time to recover.

"We have never had so much grass in the past as we have had this year, because of rotational grazing," says Silvester.

"And I would say we've never had as much quality grass as we have now since we went to rotational grazing, because you'll get the fresher grass coming back up again that we can turn them back onto."

In addition to the benefits to the cattle, these management practices also help conserve, improve, and maintain the native grass species that are present, which in turn provides valuable wildlife habitat. The improvements to their rotational grazing systems are also enhancing habitat for the Sprague's Pipit, a threatened grassland bird that resides on lightly or moderately grazed native prairie.

"Mel, Ian, Lars, and Ron are always taking the initiative to learn what's best for their grass, and to learn what's best for the species out there. They take pride in the wildlife that they have," says Julie MacKenzie, the Saskatchewan Watershed Authority's Range Ecology Technician who has worked with the group to support their management changes.

Silvester also states that he and the group would be pleased to share information with anyone looking to set up a pipeline system of their own. To contact Ron Silvester please call (306) 692-3210.

Decommissioning Abandoned Water Wells

Two field days were held near Maryfield and Redvers this summer to demonstrate the proper materials and procedure required to decommission abandoned water wells.

Any time a well is dug down to an aquifer in order to access groundwater, an avenue for contamination of that groundwater is opened. Well decommissioning properly fills and seals the well in order to remove that pathway for contamination. Decommissioning abandoned wells also ensures the public's safety by preventing people and animals from becoming trapped down a well, and it prevents damage to machinery that may inadvertently run across an abandoned well.

Both field days were organized by Karmen Kyle, the Beneficial Management Practices Technician for the Lower Souris River Watershed Advisory Committees, and Collin McGuire, a Watershed Analyst with the Saskatchewan Watershed Authority. The workshops were funded by the Technical Assistance Component of the Greencover Canada Program and the Canada-Saskatchewan Water Supply Expansion Program. A total of twenty-one residents participated.

The first field day was held at an abandoned farm yard north of Maryfield. There were no records to show the age of the well at the farm site, but it was estimated to have been there for about 70 years. This well was unique in that it was located in one of the few places in the province where fractured shale is present. The large-diameter, or "bored" well, was approximately one metre across and nine metres deep, and had developed a small cavern where the bottom of the well had begun to collapse.

The second well decommissioning field day was held 10 kilometres south of Redvers. This was also a bored well, about one metre across, with a depth of nine metres. This well, bored in 1975, was located about 20 metres from the site of a new well owned by the R.M. of Reciprocity.

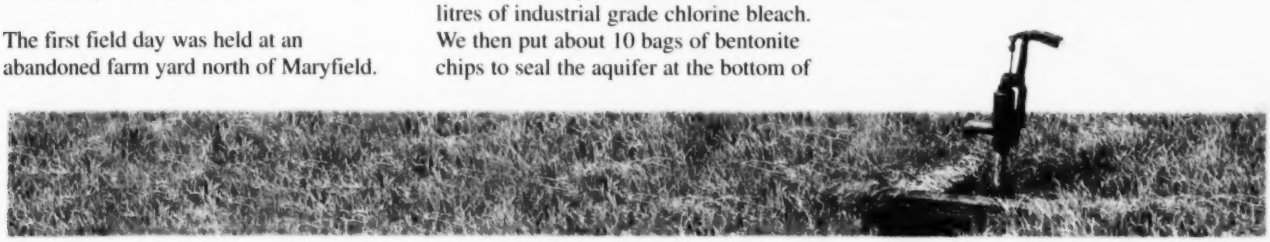
According to McGuire, the actual procedure for decommissioning a bored well is simple and takes about two hours. For both wells, the same material was needed: industrial grade chlorine bleach, sand, bentonite and clay soil. As well, a backhoe was required to remove the well casing and backfill the well with sand and clay soil. Once the amount of material needed for each well was calculated, the well decommissioning procedure could begin.

"We started by shock-treating the water to eliminate pathogens and kill any bacteria. To do that, we poured down about five litres of industrial grade chlorine bleach. We then put about 10 bags of bentonite chips to seal the aquifer at the bottom of the well. We waited about five minutes to let the benonite expand before adding three cubic metres of sand. Once the sand was added, we measured the depth to make sure the well was being filled up. After measuring, we added two more cubic metres of sand, another five litres of chlorine bleach and another 10 bags of bentonite. We waited a little over 30 minutes for that to expand and seal the well," describes McGuire.

Another important part of well decommissioning is removing the well casing near the surface. This helps lower the likelihood of causing harm to people or machinery that may come across it.

"We removed the well casing to about 10 feet below the ground surface with the backhoe, and topped it up with a mound of clay soil. That way it'll settle without creating a depression where water could gather," says McGuire.

The cost of decommissioning these wells averaged $650 per well, which included all the required material (chlorine bleach, sand, bentonite and clay soil) and the four-hour rental fee for a backhoe.



Hello Voluntary Stewards!

Thank you for taking the time to read the Winter 2006 edition of our newsletter. We hope that you have enjoyed the articles included in it, and of course, we welcome any comments that you have. As always, our sincere thanks go to the voluntary stewards who agreed to share their thoughts with us in this newsletter. These are excellent examples of projects and programs that provide benefits to both the landowner and to the land and water they work on.

You can find more information on the Prairie Stewardship Program in back issues of this newsletter. These newsletters can be viewed on our Web site at www.swa.ca, under Publications. Interactive maps featuring other stewardship project demonstration sites can be viewed at www.swa.ca, under Stewardship Programs.

Angela Bethune
Ryan Lorge

Public Open Houses

Water is a valuable resource that contributes to economic growth, and enhances our communities and way of life. Saskatchewan residents need to ensure that they have an adequate supply of quality water for the future.

In order to protect and conserve our water supplies, local Watershed Advisory Committees have recently completed a draft **Lower Souris River Watershed Source Water Protection Plan**. This document represents an action plan to ensure the protection of our source water.

Please join us for the following public open house meetings:

- **Kennedy Community Hall, Feb. 28**
- **Alida Community Hall, March 1**
- **Maryfield Theater Hall, March 2**

All meetings: 1-5 p.m. and 8-10 p.m.

For more information, contact Jeff Olson at (306) 786-1364 or e-mail LowerSourisPlan@swa.ca.

Our Gracious Supporters

• Canadian Wildlife Service
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• Ducks Unlimited Canada
• Environment Canada through Eco-ACTION
• Government of Canada Habitat Stewardship Program for Species at Risk
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• Prairie Conservation Action Plan
• Saskatchewan Agriculture and Food
• Saskatchewan Environment through the Fish and Wildlife Development Fund
• SaskPower
• SaskPower - Shand Greenhouse
• Wildlife Habitat Canada
• Wyoming Game and Fish Department

Coming Events

For more information please contact the following staff members in the office nearest you:

North Battleford
Jeremy Brown at 446-7460

Regina
Etienne Soulodre at 787-0661

Swift Current
Bob Springer at 778-8301
Krista Connick at 778-8280
Tara Mulhern Davidson at 778-8386
Julie MacKenzie at 774-4543

Yorkton
Jason Puckett at 786-5845

Weyburn
Ross Macdonald at 848-2354

Share Your Ideas!

If you have comments or ideas about this newsletter, please contact Angela Bethune at 787-8043 or e-mail: angela.bethune@swa.ca or Ryan Lorge at 787-6958 or e-mail: ryan.lorge@swa.ca.

For specific information about the Prairie Stewardship Program, please contact Jennifer Lohmeyer at 787-8707 or e-mail: jennifer.lohmeyer@swa.ca.

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